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ABSTRACT

Follow-up studies of all 1978, 1980, 1982, and 1984 graduates of Maryland community colleges were conducted 1 year after graduation. As part of these studies, the employers of graduates from occupational programs were also surveyed to determine employers' perceptions of the graduates' job performance and vocational preparation. Statewide response rates for the surveys ranged from 56% for the 1982 survey to 83% for the 1978 survey. The 2,856 employers who responded to the surveys represented a wide cross section of businesses in the state, including large and small firms, and public and private employers. Study findings included the following: (1) over the 7 year period covered by the surveys, the percentage of employers requiring an associate degree remained at approximately 31%; (2) employers were generally satisfied with graduates' familiarity with required test and laboratory equipment; (3) the percentage of employers who felt that the college preparation for job skills was at least adequate increased from 89% in 1978 to 97% in 1984; (4) the graduates' ability to learn new skills received the strongest positive rating of any of the items in the surveys; and (5) less than 1% of the employers rated graduates' technical knowledge as poor or very poor. The survey instrument is appended. (EJV)

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Employer Evaluation of Maryland Community College Graduates

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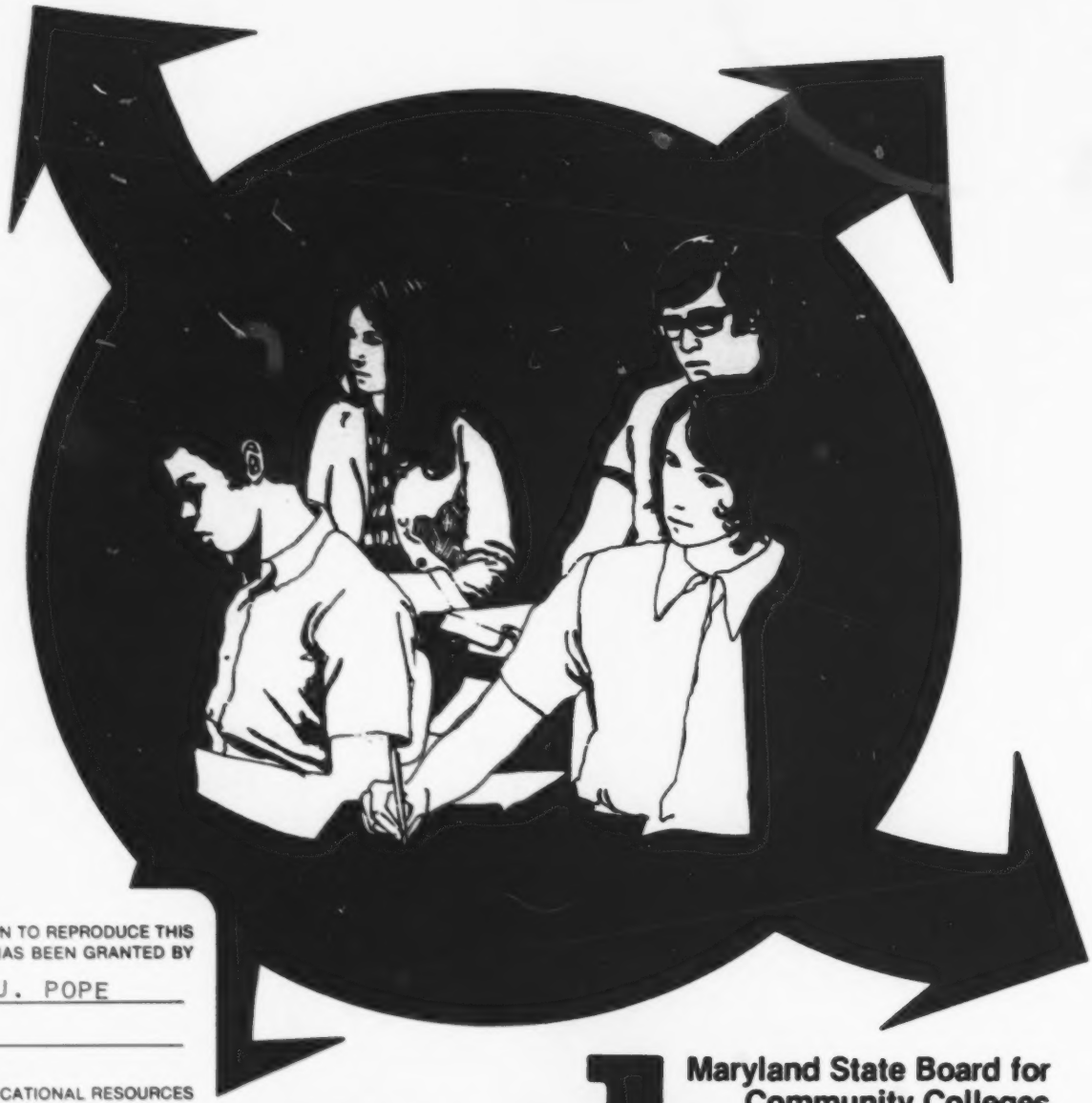

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Issued July 1986

EMPLOYER EVALUATION

OF MARYLAND COMMUNITY COLLEGE GRADUATES

RESULTS FROM FOUR SURVEYS

1978, 1980, 1982, AND 1984 GRADUATES

Maryland State Board for Community Colleges
16 Francis Street • Annapolis, MD 21401
July 1986

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ABSTRACT

Follow-up studies of 1978, 1980, 1982, and 1984 graduates of Maryland community colleges reveal a high approval rating by the graduates' employers. Little variation in these high approval ratings is dislayed across the four surveys or among the seventeen community colleges. Most employers place a high value on the associate in arts degree and rate overall vocational training of graduates very positively. Community college graduates compare well with other employees. Ninety-seven percent of the employers would hire another community college graduate. Enrollment in vocational programs has grown during this period, especially in part-time enrollments. Employer ratings of preparation in the area of technical knowledge show a steady improvement over the four surveys in a number of occupational programs. The Health Services program area shows the most variation in responses from year to year, while the few negative responses seem to be concentrated in the Natural Sciences program area. Generally, the occupational programs seem to be meeting the needs of the students and of the marketplace.

PREFACE

How well do Maryland community colleges prepare their graduates for the world of work? This report examines results from surveys of employers of 1978, 1980, 1982, and 1984 graduates and describes the employer evaluations of the graduates and their occupational preparation. The report explains how these periodic surveys are used to ensure the continued quality and relevance of community college programs to the businesses and industries of Maryland.

The surveys of employers are coordinated by the Institutional Research Directors at each college. The assistance of these individuals and the guidance of the Maryland Community College Research Group are gratefully acknowledged.

Richard Profozich, a faculty member at Prince George's Community College, co-authored this report during an internship from the University of Maryland Graduate School. Dan McConochie has been the State Board for Community Colleges staff member responsible for this project. Maxine J. Pope of the State Board staff provided editorial skills and prepared the manuscript.

These surveys have been supported in part by a grant from the Maryland State Department of Education, Division of Vocational-Technical Education.

James D. Tschechtelin
Executive Director

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INTRODUCTION

Community colleges in Maryland offer a wide variety of programs oriented toward transfer and/or preparation for the world of work. For students interested in updating job skills, retraining for a new job, or preparing for entry into a particular occupation, many credit programs and noncredit courses are available.

Occupational programs which lead to an associate in arts degree require practical skills-oriented courses as well as courses in the humanities, natural sciences, mathematics, and social sciences. Occupational certificate programs require sequences of particular occupational courses. In addition to courses programs which lead to formal academic credentials, many courses are offered as continuing education in an occupational field, including short courses and workshops designed to teach particular skills.

Colleges use a variety of means to develop and evaluate occupational programs. Advisory groups of business and community leaders are involved with faculty in the identification of the need for a new program and in the design and development of all new programs. Business leaders are surveyed to identify current and projected manpower needs and the skills needed for particular occupational areas. Each occupational program has an outside advisory group which examines business and community needs and helps the program keep current with new developments.

An important tool in the development and evaluation of programs is a periodic survey of the graduates of these programs and the employers of these graduates. This report examines the results of four surveys of employers which were conducted by the community colleges over the last seven years. The results were summarized by each program and used by the colleges to identify the strengths and weaknesses of particular programs. Statistical analyses of the survey items and content analyses of the open-ended questions have been valuable tools in identifying program strengths and weaknesses as perceived by those hiring the program's graduates.

This report summarizes the responses of 2,856 employers who have employed community college graduates to work full-time in the field in which they were trained. The methodology of the four surveys is first described so that the reader has a clear understanding of the way the data were collected and can identify the limitations on the interpretation of the results imposed by the sample and the method of collecting the data. Tables concerning the survey responses are then presented and discussed.

METHODOLOGY

Follow-up studies of all 1978, 1980, 1982, and 1984 community college graduates have been conducted one year after graduation. As part of these studies, the employers of graduates from occupational programs also were surveyed. Analyses in this report are based on these employer surveys.

During this period, a total of 2,856 employers have evaluated the job performance and vocational preparation of community college graduates who (1) had graduated from an occupational program, (2) were employed full-time in a job related to their college program, and (3) had given their permission for the community college to contact their employer.

Response Rates and Sampling Bias

The employers who responded in these studies include a wide cross section of businesses in the State of Maryland. Among those who helped in this evaluation are large and small firms, private and public employers, and businesses from every geographical section of the Maryland. Checks for bias and the high response rates indicate they are representative of employers who hired community college graduates to work in the area of their occupational program.

The statewide response rates for each of the surveys ranged from 56 percent in the 1982 survey to 83 percent in the 1978 survey with an overall response rate of 68 percent when the four surveys are combined (Table 1). All colleges participated in each of the four surveys with response rates for each college during these years ranging from 32 percent to 89 percent.

Table 1

RESPONSE RATES

Survey	Eligible Employers	Responding Employers	Response Rate
TOTAL	4,217	2,856	68%
1978	937	779	83
1980	1,023	679	66
1982	1,312	736	56
1984	945	662	70

Table 2 shows the number of programs at each college that have been evaluated by employers and the number of employers who have participated in this evaluation. Over 300 occupational programs and 2,856 graduates have been evaluated.

Table 2

NUMBER OF PROGRAMS EVALUATED

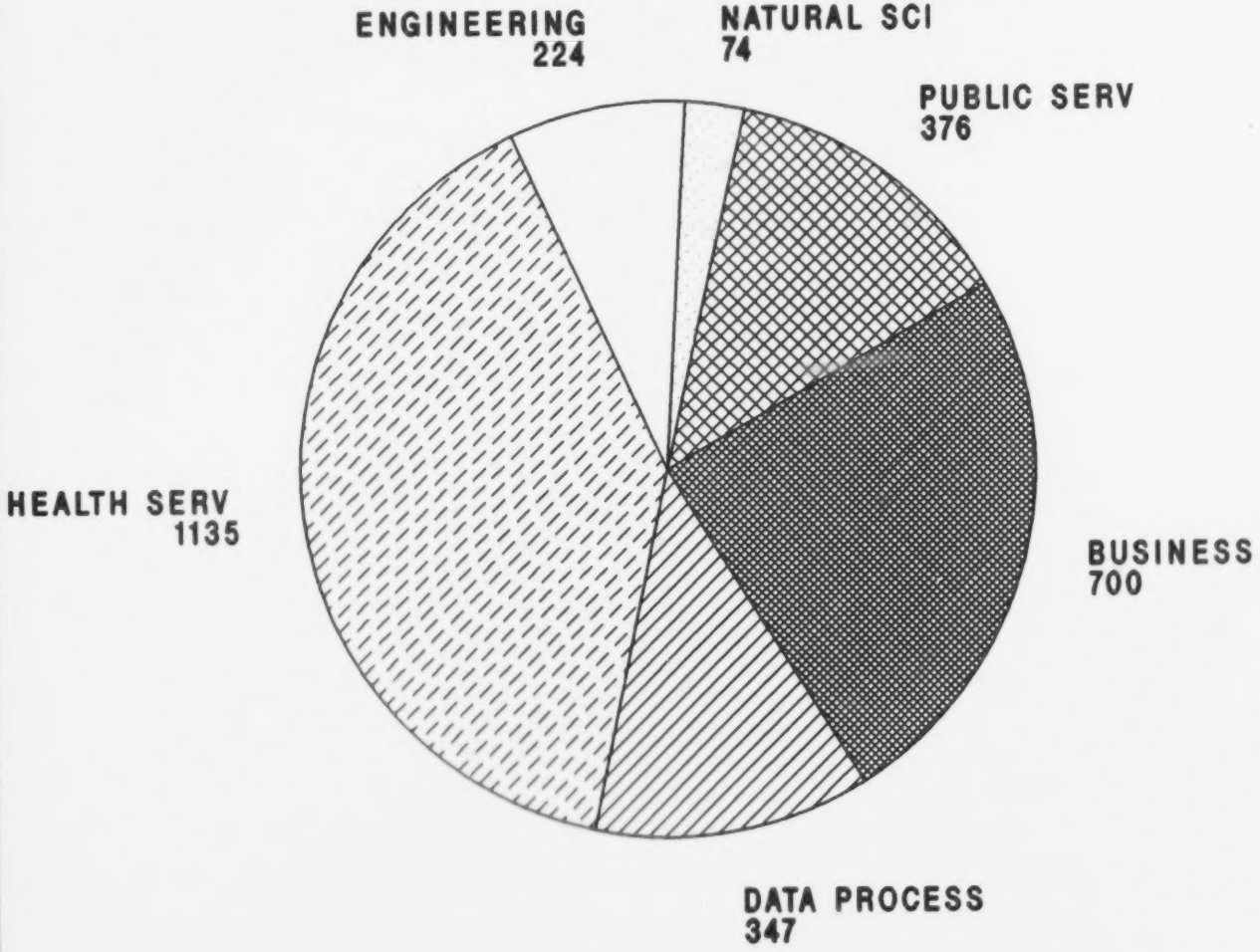
College	Number of Programs	Number of Employers
TOTAL	320	2,856
Allegany	21	241
Anne Arundel	17	232
Baltimore	34	247
Catonsville	28	254
Cecil	9	41
Charles	18	134
Chesapeake	8	32
Dundalk	15	87
Essex	22	249
Frederick	10	72
Garrett	7	13
Hagerstown	14	160
Harford	21	173
Howard	12	153
Montgomery	49	347
Prince George's	25	328
Wor-Wic Tech	10	93

The largest number of these employer evaluations were concentrated in the areas of Health Services Technologies (39 percent), Business and Commerce Technologies (24 percent), Public Service Related Technologies (13 percent), and Data Processing Technologies (12 percent). Graph 1 illustrates how the employer responses are distributed among the six major program areas.

Graph I

NUMBER OF EMPLOYER RESPONSES BY PROGRAM AREA

MARYLAND COMMUNITY COLLEGES



SOURCE: 78,80,82 AND 84 SURVEYS OF EMPLOYERS

Table 3 shows that four of the six occupational areas have provided a consistent level of employer responses. One area, Data Processing Technologies, has doubled its responses in the eight-year period, while the number of Public Service area responses has decreased.

Table 3

EMPLOYERS BY PROGRAM AREA

Program Area	1978		1980		1982		1984		Total	
	N	%	N	%	N	%	N	%	N	%
TOTAL	779		679		736		662		2,856	
Business and Commerce	165	21	185	27	174	23	176	26	700	24
Data Processing	55	7	80	12	102	14	110	16	347	12
Health Services	316	40	239	35	309	42	271	40	1,135	39
Mechanical and Engineering	59	8	64	9	55	7	46	7	224	8
Natural Science	21	3	16	2	24	3	13	2	74	3
Public Service Related	163	21	95	14	72	10	46	7	376	13

The Questionnaires

The Maryland Community College Research Group, comprised of the institutional research directors of the Maryland community colleges, designed the questionnaires used in the surveys of employers. The questionnaires were designed to provide useful information at the program, college, and statewide levels. Particular responses have been used in other reporting systems, such as the Federal Vocational Education Data System (VEDS). A copy of the questionnaire is reprinted as Appendix B.

The questionnaires were printed by the State Board for Community Colleges and mailed and collected by each community college. Graduates were surveyed one year after graduation from the community colleges. Thus, the 1978 graduates were surveyed in Spring 1979 and the employers of these graduates were surveyed in early Summer of 1979.

Employers of graduates who were employed full-time in an occupation related to their program and who gave permission to contact their employers were mailed the one-page questionnaire and asked to help the college evaluate its occupational programs. Employers who did not respond to the first survey request received subsequent mailings.

A schedule of the surveys follows:

Year of Graduation	Year of Graduate Survey	Year of Employer Survey
1978	April 1979	May 1979
1980	April 1981	May 1981
1982	April 1983	May 1983
1984	April 1985	May 1985

Limitations Imposed by the Sample

The employers who responded to these four surveys represent only a fraction of the employers of individuals who attended or graduated from a Maryland community college. This report concentrates on the group of graduates who are working full-time in the area of their occupational program preparation. The employers of graduates who were preparing for transfer to four-year colleges, who were prepared in one program but who found work in another field, who were working part-time, or who were in the military are not examined.

Programs and Program Areas

Students graduate from programs, and the particular employer responses are generally most useful in the evaluation of the programs. For purposes of this report, the responses are summarized by program areas which group similar programs.

The Business and Commerce program area includes Accounting, Banking and Finance, Secretarial Sciences, Management, and other related programs.

The Data Processing area includes Computer Programming Operations, Repair Technology, Applications Programming, and other related programs.

The Health Services program area includes Nursing, Dental Assisting, Physical Therapy, Radiation Therapy, Emergency Medical Services, and other related programs.

The Mechanical and Engineering program area includes Aviation Maintenance, Engineering Graphics, Chemical Technologies, Automotives, Electronics, and other related programs.

The Natural Science program area includes Environmental Resources, Agriculture, Forestry, Science Laboratory Technologies, and other related programs.

The Public Service program area includes Law Enforcement, Fire Protection, Legal Assistant, Public Administration, Paraprofessional Counseling, and other related programs.

RESEARCH QUESTIONS

The general questions asked of each employer and an analysis of their responses are examined. Responses are analyzed by college, program area, and/or year to search for variations in the responses.

Variations by College and Variations by Program

Differences in responses have been primarily associated with the graduate's program or program area. Few and inconsistent differences among colleges were found. No college or colleges ranked consistently low on these indicators. To document these college-by-college results, tables showing responses by college are included as Appendix A.

The most powerful use of these data has been at the program level within each college. Employer responses helped identify new technological developments, areas of needed program development, and potential members of program advisory groups. Employers' written comments and responses to the open-ended questions provided valuable additional information for faculty and administrators.

A. What level of education is required or preferred for the job held by the community college graduate?

One of the most perplexing questions regarding community college occupational programs is the level of preparation required by employers. The question influences curriculum decisions, the amount of time a student stays at the college, and planning for new courses. Data in Table 4 indicate that throughout the four surveys about 31 percent of the employers have reported they require an associate in arts (AA) degree for the position held by the graduate being evaluated. Forty-one percent do not require an associate degree but do report they prefer an AA degree; and 28 percent report they give no preference to an AA degree recipient.

The value of an AA degree has risen slightly during this period with more employers reporting they preferred an AA degree. The percentage reporting they require an AA degree has remained at 31 percent.

Table 4

DEGREE REQUIREMENT OF EMPLOYERS

AA Degree	1978		1980		1982		1984		Total	
	N	%	N	%	N	%	N	%	N	%
TOTAL	740	100	650	100	712	100	639	100	2,741	100
Required	228	31	192	29	226	32	204	32	850	31
Preferred	281	38	291	45	278	39	275	43	1,125	41
No preference	231	31	167	26	208	29	160	25	766	28

Employers of the 1984 graduates were asked their preference for a number of levels of educational preparation. When other levels of education were also ranked, employer educational requirements became clearer (Table 5 and Graphs 2 and 3). Forty-eight percent of these employers of community college graduates "required" some education beyond a high school diploma. Ninety-five percent "preferred" education beyond the high school diploma with 29 percent preferring a bachelor of arts degree for the position. Eleven percent required some community college courses and another 8 percent required at least a community college certificate. While 95 percent preferred education beyond the high school diploma, 41 percent were as happy with students who had taken specific courses or received a certificate as with those who had an associate or bachelor's degree (29 percent).

Table 5

DEGREE REQUIREMENTS OF JOBS HELD
BY 1984 COMMUNITY COLLEGE GRADUATES

Level	Required %	Preferred %
High school diploma	52	5
Community college courses	11	21
Certificate	8	20
Associate in Arts degree	26	25
Bachelor's degree	3	29

As might be expected, the level of educational preparation required or preferred was not constant across different program areas. Associate degrees are required in registered nursing positions and strongly preferred in technological areas like data processing. The percentage of employers requiring an AA degree over the eight-year period has not changed in the Secretarial/Business Management area (13 to 16 percent have required an AA degree).

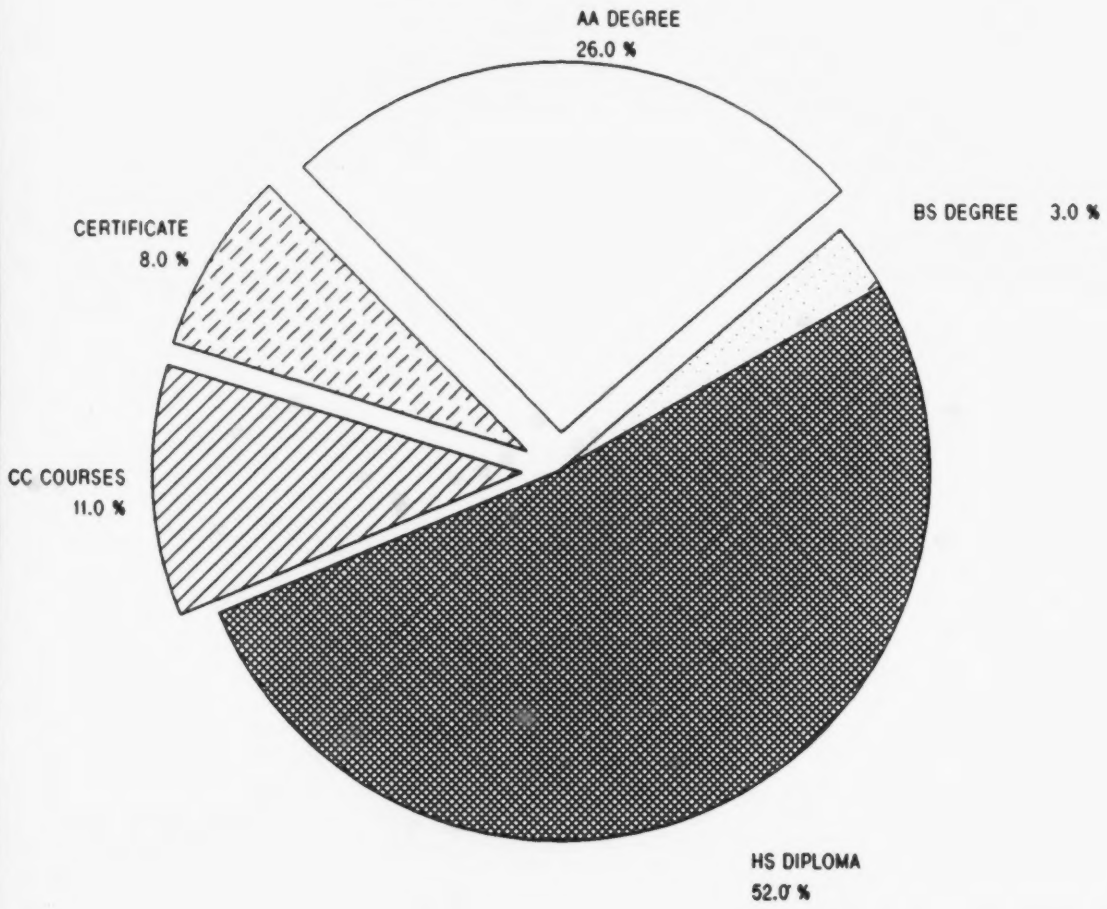
In each survey, approximately 25 percent of the employers of Data Processing Technology programs have required an AA degree and approximately 25 percent of those hiring Mechanical and Engineering Technology graduates over this period have required an AA degree. The one program area where an associate degree requirement has increased is in the field of Health Services where a much larger proportion of employers now require an AA degree.

The employers who were most likely to require an AA degree were in the Health Services area. Forty-one percent of the employers of graduates in Health Services reported that an AA degree was necessary. Employers of nurses, physician assistants, and medical laboratory technologists are also the most likely to prefer a bachelor's degree (Table 6).

Graph 2

EMPLOYERS' DEGREE REQUIREMENTS

MARYLAND COMMUNITY COLLEGES

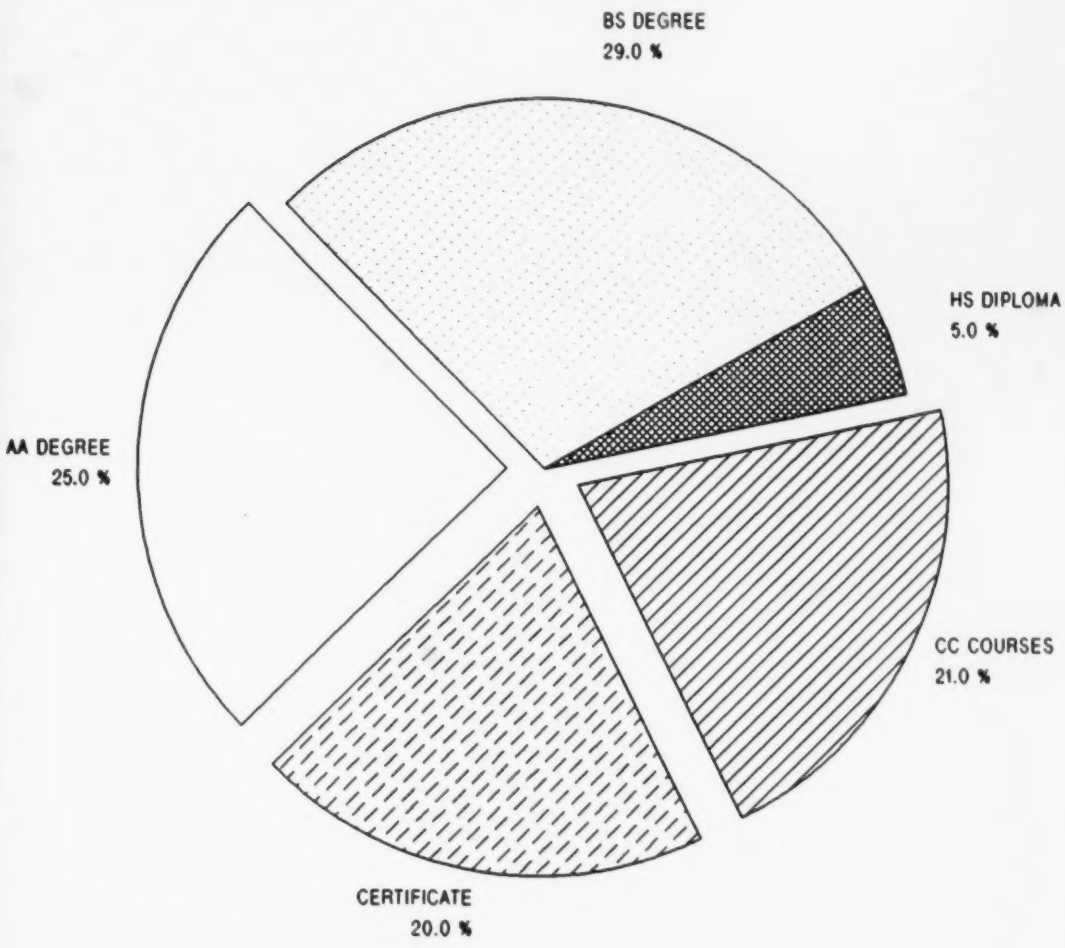


EDUCATION "REQUIRED" FOR JOBS HELD BY CC GRAD

Graph 3

EMPLOYERS' DEGREE PREFERENCE

MARYLAND COMMUNITY COLLEGES



EDUCATION "PREFERRED" FOR JOBS HELD BY GRADS

Table 6

LEVEL OF EDUCATIONAL PREPARATION

Program Area	High School Diploma %	Community College Courses %	Certificate %	Associate in Arts %	Bachelor's Degree %
Business & Commerce					
Required	70	14	3	8	5
Preferred	6	24	25	28	16
Data Processing					
Required	63	13	6	14	4
Preferred	4	22	23	23	28
Health Services					
Required	36	10	11	41	2
Preferred	4	12	10	18	57
Mechanical & Engineering					
Required	65	10	8	15	2
Preferred	10	28	20	29	13
Natural Science					
Required	63	13	-	25	-
Preferred	25	13	39	19	6
Public Service Related					
Required	65	15	6	12	2
Preferred	3	23	21	29	24

Employers of graduates in the Business and Commerce area (Secretarial Science, Management, Real Estate, among others) were, on the other hand, more likely to require only a high school diploma but to prefer community college courses, certificates, and associate degrees. Seventy percent required a high school diploma but 28 percent preferred an AA degree, and another 49 percent gave preference to those with community college courses or a community college certificate in this area.

Employers hiring community college graduates in the Data Processing area (Programming, among others) don't always require higher education for employees but there is a strong preference for employees with courses, certificates, and associate and bachelor's degrees.

Employers of graduates of Mechanical and Engineering Technologies (Drafting, Chemical, Surveying, Aviation, Automotive Maintenance, among others) were less likely to require an AA or a bachelor's degree. Their preference was more likely to be for community college courses and awards rather than for a four-year degree. The same pattern of requirements and preferences are found in the Natural Science Technologies (Wildlife Management, Science Laboratory Technician, Environmental and Renewable Resources, among others). Postsecondary degrees were required by only 25 percent of the employers but community college courses, certificates, and the associate degree were preferred by 71 percent of the employers. Only 6 percent of the employers in this area preferred a person with a bachelor's degree.

In the area of Public Service Related Technologies (Law Enforcement, Corrections, Child Care Aid, Fire Science, Legal Assistant, among others), only 35 percent required any kind of education beyond the high school diploma but most preferred postsecondary educational experience. Most preferred an AA degree but 23 percent preferred community college courses, 21 percent preferred a certificate, and 24 percent preferred a bachelor's degree.

Table 7 provides data on actual graduation trends in these program areas. The largest proportion of graduates has been in the Health Services area where employers are more likely to require an associate degree. The area with the most dramatic increase in graduates has been Data Processing where these employers expressed a strong preference for community college degrees. Other program areas have had a lower number of graduates. In these areas, employer preferences are more often for specific courses rather than for degree programs and for specialized certificate programs. In the case of Natural Science and Public Service Technologies, the number of AA graduates has decreased.

Employer preferences for courses and certificates also seem to be related to the number of majors in occupational programs (Table 8). The total number of declared majors in occupational programs was 32,723 in 1978 of which 11,633 were full-time students (36 percent) and 21,090 were part-time students (74 percent). In 1984, the total number of students majoring in occupational programs had increased to 46,608 with 12,698 full-time students (27 percent) and 33,910 part-time students (73 percent). Data Processing as a program area increased dramatically. Full-time students increased by 1,434 (106 percent) and part-time students increased by 6,465 (229 percent) and had grown from 12 to 22 percent of all full-time and from 13 to 27 percent of all part-time occupational enrollment by 1984. Natural Science and Public Service program areas had declined in the number of student majors.

Graph 4 and graph 5 illustrate these changes in enrollment of program majors.

Table 7

ASSOCIATE DEGREE TRENDS IN OCCUPATIONAL PROGRAM AREAS
MARYLAND COMMUNITY COLLEGES
FISCAL YEARS 1981 - 1985

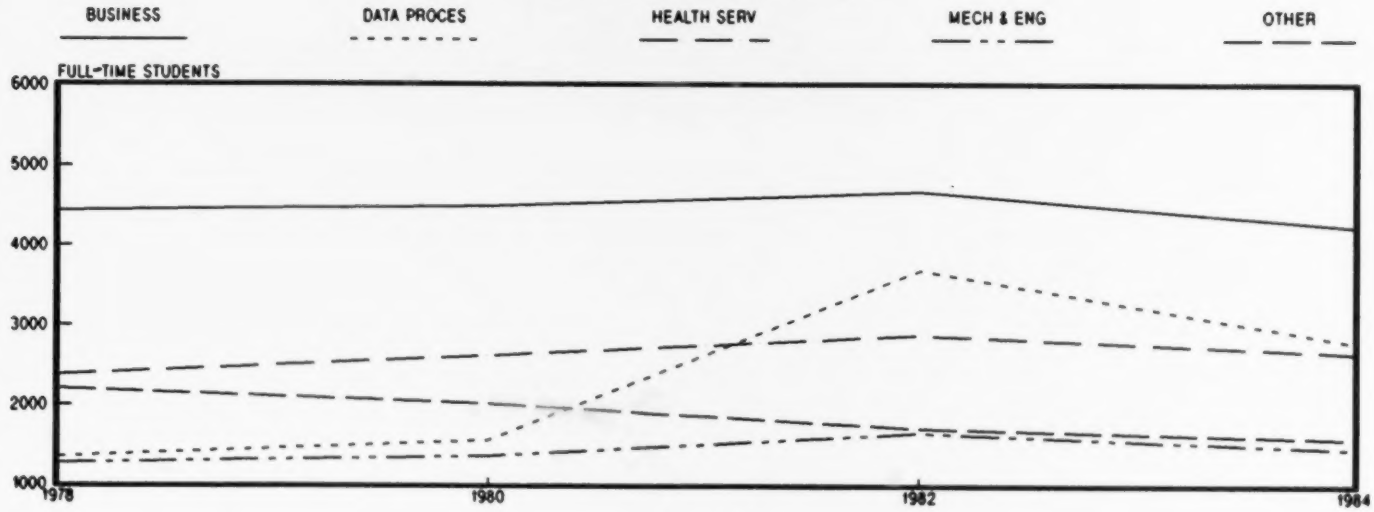
College	Business and Commerce					Data Processing					Health Services				
	1981	1982	1983	1984	1985	1981	1982	1983	1984	1985	1981	1982	1983	1984	1985
Allegany	56	68	51	87	96	18	14	32	33	29	89	117	132	144	173
Anne Arundel	77	80	77	97	75	50	50	67	72	59	84	91	82	91	99
Baltimore	137	127	129	101	82	22	17	23	34	26	138	124	136	155	120
Catonsville	65	66	63	74	65	48	72	72	99	88	126	134	126	126	161
Cecil	22	20	19	17	14	-	-	6	9	11	-	-	23	22	25
Charles	19	28	27	25	20	34	25	39	57	59	36	25	39	33	43
Chesapeake	16	24	20	25	19	-	-	-	7	17	9	3	-	3	3
Dundalk	26	26	22	17	17	-	-	-	7	7	-	-	-	4	6
Essex	80	84	92	52	79	32	46	60	62	91	174	157	193	172	185
Frederick	17	20	23	30	31	13	11	13	18	26	18	31	29	39	27
Garrett	10	11	5	3	6	-	-	-	-	-	7	4	9	5	5
Hagerstown	33	38	26	62	34	12	29	36	32	26	41	45	48	43	42
Harford	47	51	58	54	77	23	31	31	35	30	98	88	71	87	79
Howard	47	43	44	44	36	9	17	9	22	11	50	66	62	81	55
Montgomery:															
Rockville	158	163	190	169	197	51	64	75	115	113	2	1	-	1	-
Takoma Park	2	17	3	9	13	8	15	30	28	41	160	172	159	152	131
Germantown	13	-	13	17	9	2	-	5	12	11	3	-	-	1	-
Prince George's	271	301	274	247	293	75	90	121	121	160	176	153	161	160	145
Wor-Wic Tech	14	18	36	17	36	-	-	-	-	-	20	27	26	40	54
TOTAL	1,110	1,185	1,172	1,147	1,199	397	481	619	763	805	1,231	1,238	1,296	1,359	1,353

College	Mechanical and Engineering					Natural Sciences					Public Service				
	1981	1982	1983	1984	1985	1981	1982	1983	1984	1985	1981	1982	1983	1984	1985
Allegany	10	17	31	25	36	12	17	11	14	7	8	28	13	20	17
Anne Arundel	24	28	27	27	34	3	4	1	-	-	22	23	10	15	19
Baltimore	39	28	24	30	27	12	11	17	12	12	114	108	83	87	56
Catonsville	47	64	73	65	59	-	-	-	-	-	48	60	40	39	30
Cecil	10	5	9	10	6	-	-	-	-	-	-	2	3	-	2
Charles	8	4	5	1	1	3	4	-	-	-	6	4	-	-	-
Chesapeake	7	9	9	3	7	-	-	-	-	-	7	8	3	5	2
Dundalk	5	5	2	5	7	-	-	-	-	-	35	38	20	44	26
Essex	1	2	4	4	18	-	-	-	-	-	59	54	44	27	40
Frederick	4	3	3	4	14	-	-	-	-	-	8	7	9	4	5
Garrett	2	2	1	6	3	18	21	8	9	7	-	-	-	-	-
Hagerstown	22	13	15	21	17	3	7	-	-	-	26	19	15	19	21
Harford	13	13	13	13	4	4	4	10	7	6	27	23	18	12	6
Howard	6	11	8	15	15	-	-	-	-	-	-	-	-	-	-
Montgomery:															
Rockville	43	64	49	61	63	-	-	-	-	-	69	81	88	75	62
Takoma Park	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Germantown	-	-	2	2	4	-	-	-	-	-	-	-	-	-	-
Prince George's	36	43	52	45	35	-	-	-	-	-	91	81	66	80	86
Wor-Wic Tech	2	4	-	1	-	-	-	-	-	-	5	11	11	1	5
TOTAL	280	318	327	338	350	55	68	47	42	32	525	547	423	428	377

Graph 4

TRENDS IN OCCUPATIONAL PROGRAM MAJORS

MARYLAND COMMUNITY COLLEGES



Graph 5

TRENDS IN OCCUPATIONAL PROGRAM MAJORS

MARYLAND COMMUNITY COLLEGES

SOURCE: ENROLLMENT INFORMATION SYSTEM

Table 8

TRENDS IN THE NUMBER AND PERCENT OF PROGRAM MAJORS

Program Area	Full-time	Percent	Part-time	Percent
	Fall 1978			
STATEWIDE	11,633	100%	21,090	100%
Business and Commerce	4,431	38	9,086	43
Data Processing	1,349	12	2,823	13
Health Services	2,378	20	3,483	17
Mechanical and Engineering	1,268	11	2,478	12
Natural Science	264	2	167	1
Public Service	1,943	17	3,053	14
	Fall 1980			
STATEWIDE	12,044	100%	21,479	100%
Business and Commerce	4,490	37	9,314	43
Data Processing	1,558	13	3,458	16
Health Services	2,621	22	3,562	17
Mechanical and Engineering	1,359	11	2,397	11
Natural Science	250	2	233	1
Public Service	1,766	15	2,515	12
	Fall 1982			
STATEWIDE	14,601	100%	33,308	100%
Business and Commerce	4,673	32	12,033	36
Data Processing	3,691	25	9,709	29
Health Services	2,880	20	5,412	16
Mechanical and Engineering	1,650	11	3,404	10
Natural Science	194	1	236	1
Public Service	1,513	10	2,514	8
	Fall 1984			
STATEWIDE	12,698	100%	33,910	100%
Business and Commerce	4,239	33	12,814	38
Data Processing	2,785	22	9,288	27
Health Services	2,653	21	5,265	16
Mechanical and Engineering	1,447	11	3,757	11
Natural Science	135	1	227	1
Public Service	1,439	11	2,559	8

B. How do employers rate the graduate's familiarity with required test and laboratory equipment?

The graduate's familiarity with laboratory and test equipment is an important job qualification, especially in such fields as Nursing, Medical Laboratory Technology, Data Processing, Electronics Technology, and Dental Assisting. As the use of personal computers and word processors becomes more common in a variety of business applications and as laboratory and test equipment become increasingly sophisticated, this measure of community college preparation will increase in significance. The use of test equipment in other areas, such as Secretarial Science and Law Enforcement, is low.

Data in Table 9 indicate employers were, in general, satisfied with each graduate's familiarity with test and laboratory equipment. The combined ratings of more than adequate and adequate increased from 69 percent in 1978 to 71 percent in 1984. The proportion viewing this item as inadequate decreased from 7 percent in 1978 to 5 percent in 1984.

There were few differences between colleges concerning the employer's view of the adequacy of familiarity with equipment. No college has shown a consistently poor rating in any of these program areas. There have been, however, rather large and interesting differences in this item for different program areas.

Employers of graduates in the Health Services area (Nursing, Laboratory Technicians, among others) were the least likely to have said these skills were not applicable and the most likely to report dissatisfaction with this area of training. In 1978, 13 percent of the employers in this program area felt that familiarity with equipment was inadequate. For the 1984 graduates, this had been reduced to 8 percent but was still the highest of all the program areas.

As might be expected, the program areas where familiarity with test equipment was most likely to be not applicable were Business and Commerce (Secretarial Science, Business Management, among others) and Public Service Technologies (Legal Assistant, Early Childhood Education, among others). Use of test and laboratory equipment is not generally a needed job skill in these areas, although expertise with equipment is increasingly demanded by employers.

Written employer comments to the questions of which additional skills and areas of knowledge were needed included a heavy emphasis on practical hands-on experience with equipment in all technical areas of study and the importance of experience with computers in the business areas. Many of the employers who listed their employee's familiarity with test equipment as adequate nonetheless encouraged the colleges to increase hands-on experience with computers and with needed technical equipment.

Table 9 also shows that the Health Services and Mechanical and Engineering Technologies have produced a marked improvement in their graduate's familiarity with test and laboratory equipment. These two areas, where competence in operating this type of equipment is applicable, have reduced their inadequate responses by almost 50 percent from 1978 to 1984.

Table 9

FAMILIARITY WITH TEST AND LABORATORY EQUIPMENT

Program Area	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	69	67	68	71	7	7	6	5	24	26	26	24
Business & Commerce	56	55	54	53	1	1	2	3	43	44	44	44
Data Processing	77	64	66	67	4	10	6	6	19	26	28	28
Health Services	80	78	82	86	13	14	10	8	7	8	8	7
Mechanical & Engineering	75	84	70	78	10	6	4	4	15	9	26	18
Natural Science	75	60	65	62	5	0	4	0	20	40	30	39
Public Service	54	53	46	59	1	0	3	0	46	47	52	41

C. How do employers rate the college preparation for the on-the-job performance of needed skills?

Employers in all four surveys felt the occupational programs prepared employees to perform necessary job skills. The percentage of employers who felt that the college preparation for performance of job skills was more than adequate or adequate increased from 89 percent in 1978 to 97 percent in 1984. The percentage who felt that graduates were inadequately prepared has been low throughout this period (Table 10). This indicates that occupational program content and level of instruction have been very strong and relevant to the needs of the workplace.

For each occupational program area, Graph 6 shows that graduates are considered well prepared to perform necessary job skills in all programs. The Health Services area made the greatest improvement in job skill preparedness. In 1978, 12 percent of the responses noted job skill preparation as inadequate. In the 1984 survey, the inadequate rating fell to only 3 percent. The one occupational program area to show an increase in the inadequately prepared response from 1978 to 1984 was Natural Science where the perentage of employers rating job skill preparation as inadequate increased from 9 percent in 1978 to 15 percent of the 1984 graduates.

Table 10

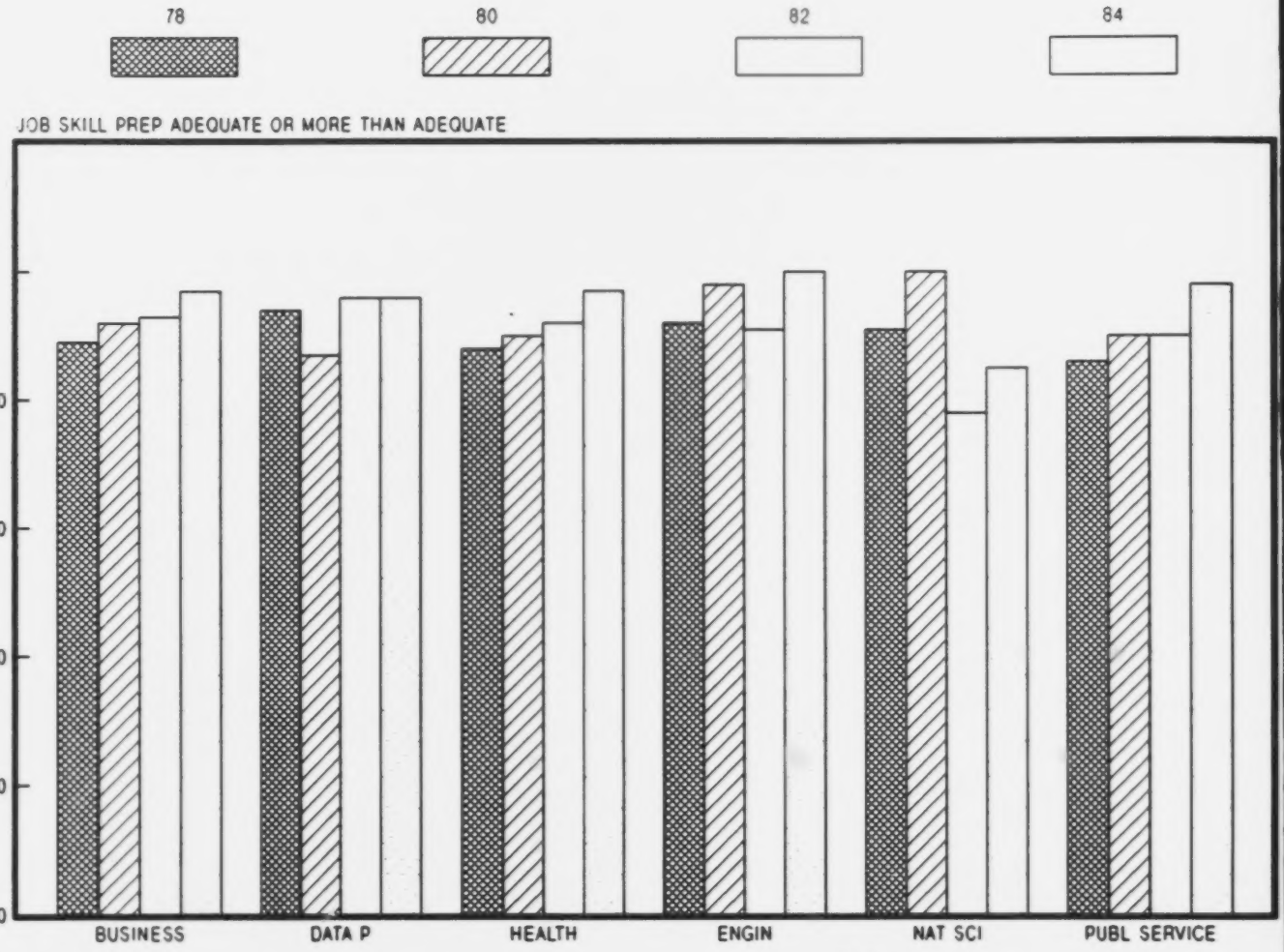
EMPLOYERS WHO RATED COLLEGE PREPARATION
FOR NEEDED JOB SKILLS
AS MORE THAN ADEQUATE OR ADEQUATE

Program Area	1978 %	1980 %	1982 %	1984 %
STATEWIDE	89	92	93	97
Business & Commerce	93	94	95	97
Data Processing	94	87	96	96
Health Services	88	90	92	97
Mechanical & Engineering	92	98	91	100
Natural Science	91	100	78	85
Public Service	86	90	90	98

Graph 6

COLLEGE PROVIDED NEEDED JOB SKILLS

MARYLAND COMMUNITY COLLEGES



D. How do employers rate the graduate's ability to learn new techniques on the job?

An important aspect of any academic program, occupational or otherwise, is its success in preparing graduates to apply their knowledge to new problems and to new settings. Graduates must not only master the important content of an area of study, they must be able to use it. This requires the teaching not just of content but of analysis and of problem solving. It requires that programs encourage student individuality and creativity in the approach to the subject matter and to its application.

The success of the State's community colleges in preparing graduates to apply their knowledge and to learn new techniques on the job is shown in Table 11.

The graduate's ability to learn new skills receives the strongest positive rating of any of the items in the surveys and this ability is high across all program areas. Almost all employers believe this ability is applicable and each year over 96 percent rated this as adequate or more than adequate. This high evaluation speaks well for the community colleges' ability to provide a thorough educational experience through the general education requirement of each vocational education program.

Table 11

ABILITY TO LEARN NEW SKILLS ON THE JOB

Program Area	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	97	97	98	98	2	1	1	1	2	2	1	1
Business & Commerce	96	97	99	97	0	1	0	2	4	2	1	1
Data Processing	98	99	96	95	2	1	2	0	0	0	2	5
Health Services	97	97	98	99	3	2	1	1	0	1	1	0
Mechanical & Engineering	98	100	98	98	2	0	0	2	0	0	2	0
Natural Science	100	88	96	100	0	0	4	0	0	12	0	0
Public Service	94	98	97	100	2	0	0	0	4	2	3	0

E. How adequately prepared to communicate with superiors were the graduates?

The ability of graduates to communicate, both orally and in writing, is seen by employers as important to the success of the graduate and a major contribution to a productive work environment. The graduate's ability to communicate well with superiors was consistently ranked high. Most employers felt this was an important characteristic and most felt that the graduates were well prepared in this area.

One area of concern is the percent of the employers of Engineering (7 percent) and Natural Science program areas (8 percent) who rated graduates as inadequate. Although this is a small number of employers, this dissatisfaction has been expressed in several of the surveys and needs to be investigated by college faculty responsible for the curriculum in these areas.

Although this is a skill where past graduates have consistently ranked high, it is an area where many employers asked for increased effort. Written comments to the open-ended question concerning needed improvements (Part F of the survey) strongly recommend increased attention to communication skills.

Table 12 shows the ability of graduates to communicate with superiors by program area.

Table 12

PREPARATION TO COMMUNICATE WITH SUPERIORS

Program Area	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	94	94	97	95	4	5	3	3	2	1	1	2
Business & Commerce	94	96	98	96	2	3	2	3	4	1	1	1
Data Processing	91	97	97	93	9	3	1	4	0	0	2	4
Health Services	97	92	96	97	3	7	4	3	0	1	0	0
Mechanical & Engineering	92	97	94	89	8	3	4	7	0	0	2	4
Natural Science	100	87	91	85	0	13	9	8	0	0	0	7
Public Service	91	94	99	98	4	4	0	0	4	2	1	2

F. How adequately prepared to work well with other employees were the graduates?

The employers gave high ratings to the graduate's preparation to work well with other employees (Table 13). More than 95 percent of all employers were satisfied with this preparation in each survey.

The small number of employers who felt the graduates had received inadequate preparation in this area were likely to be concentrated in the Natural Science program area. While the number of employers rating this area of preparation inadequate is low, this concentration in one program area is of concern and needs to be investigated.

Table 13

PREPARATION TO WORK WELL WITH OTHER EMPLOYEES

Program Area	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	95	96	97	96	2	3	2	2	2	1	1	2
Business & Commerce	94	95	98	97	1	3	1	1	5	2	1	3
Data Processing	96	96	98	91	4	4	0	3	0	0	2	7
Health Services	96	94	97	97	3	4	3	3	1	2	0	0
Mechanical & Engineering	100	100	96	97	0	0	2	2	0	0	2	2
Natural Science	95	88	91	85	0	12	9	8	5	0	0	8
Public Service	93	98	97	98	2	1	1	0	4	1	2	2

G. How do employers rate the vocational training by the graduates in the area of technical knowledge?

During the period covered by the four surveys, less than one percent of the employers rated the graduate's technical knowledge as poor or very poor (Table 14). Most (84-89 percent) rated technical knowledge as good or very good.

Responses to this question which asked that the graduate's training in the area of technical knowledge be rated on a scale from very good to very poor were most likely to vary in the percentage of employers who ranked themselves as neutral. In 1978, 14 percent chose this category. By 1984, the employers choosing neutral dropped to 10 percent. The proportion rating technical knowledge very good or good showed steady increases in Health Services, Mechanical and Engineering, and Public Service program areas.

Table 14

PREPARATION IN AREA OF TECHNICAL KNOWLEDGE

Program Area	Very Good or Good				Neutral				Poor or Very Poor			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	84	86	86	89	14	13	13	10	2	1	1	1
Business & Commerce	91	86	90	91	8	12	9	7	1	2	1	1
Data Processing	89	78	88	90	11	20	12	9	0	2	0	1
Health Services	80	85	83	87	16	13	16	11	4	2	2	2
Mechanical & Engineering	80	89	86	87	17	11	14	13	3	0	0	0
Natural Science	81	88	83	83	19	13	17	17	0	0	0	0
Public Service	85	92	84	91	15	8	16	9	1	0	0	0

H. How do employers rate the vocational training received by the graduates in the area of work attitude?

Employers value a sense of team participation and positive attitudes toward completion of job tasks. Employers of community college graduates have consistently rated vocational training in the area of work attitude as very high. In each survey, 89-90 percent rated graduates very good or good in work attitude (Table 15).

Table 15

PREPARATION IN AREA OF WORK ATTITUDE

Program Area	Very Good or Good				Neutral				Poor or Very Poor			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	89	90	90	90	9	8	8	9	2	2	2	1
Business & Commerce	88	92	94	93	11	6	6	6	1	2	0	1
Data Processing	91	93	90	91	9	4	9	9	0	3	1	0
Health Services	88	88	89	87	9	10	9	12	3	2	2	1
Mechanical & Engineering	88	94	89	96	12	6	11	4	0	0	0	0
Natural Science	100	88	83	83	0	6	8	17	0	6	9	0
Public Service	89	89	92	95	8	9	8	5	2	2	0	0

I. How do employers rate the vocational training received by the graduates in the area of work quality?

Employers expect employees to have high standards in the area of work quality and are seldom neutral when a new employee arrives with a sense that any level of quality is acceptable. Community college graduates have consistently ranked high in this area and employers have consistently given very good or good marks to the community colleges for providing this preparation (Table 16).

In each of the four surveys, between 89 and 93 percent of the employers rated training in this area as very good or good and only one percent rated an employee's training in work quality as poor or very poor.

Table 16

PREPARATION IN AREA OF WORK QUALITY

Program Area	Very Good or Good				Neutral				Poor or Very Poor			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	89	93	92	91	10	6	7	9	1	1	1	0
Business & Commerce	89	93	94	89	11	6	5	10	0	1	1	1
Data Processing	91	92	96	95	9	7	4	5	0	1	0	0
Health Services	88	93	89	89	10	6	9	11	2	1	2	0
Mechanical & Engineering	83	92	94	93	17	8	6	7	0	0	0	0
Natural Science	95	94	79	92	5	6	13	0	0	0	8	8
Public Service	92	94	94	95	6	6	6	5	2	0	0	0

J. How do employers rate the overall vocational training as it relates to the graduate's job?

When asked to rate the overall vocational training as it relates to the employee's particular job, very few employers gave poor marks (Table 17). Between 10 and 11 percent in each survey were not willing to say that the training was either good or poor and reported they were neutral toward the training. Between 86 and 89 percent of each survey reported that the overall vocational training had been very good. Employers in the Health Services area were most likely to be either neutral or rate overall training as poor. Graph 7 illustrates these data and points out the increases in ratings that have been occurring in Business, Data Processing, and Engineering related programs.

Table 17

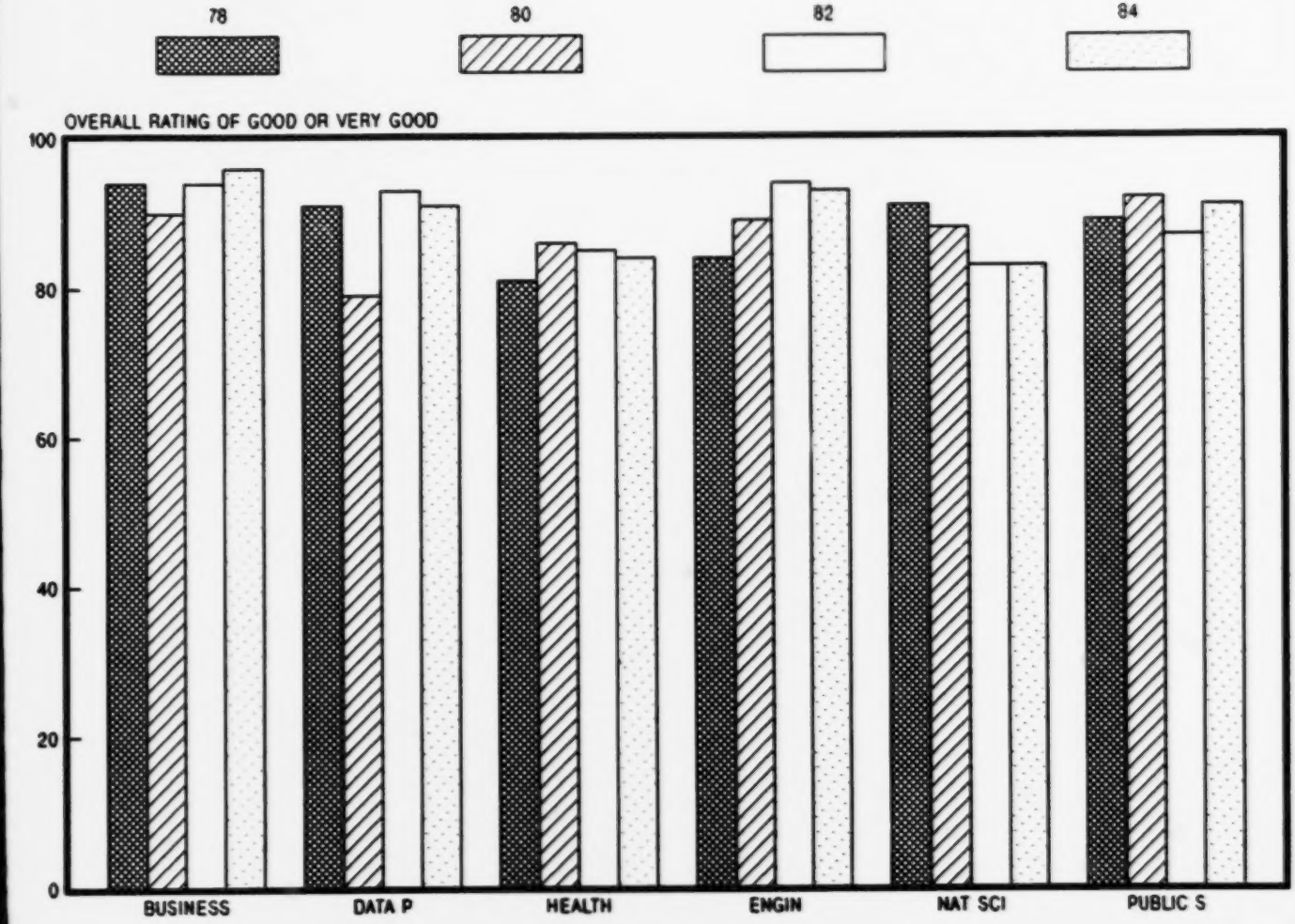
OVERALL RATING OF VOCATIONAL TRAINING
AS IT RELATES TO PARTICULAR JOB

Program Area	Very Good or Good				Neutral				Poor or Very Poor			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	86	88	89	89	11	11	10	10	3	1	1	1
Business & Commerce	94	90	94	96	5	9	6	4	1	1	0	0
Data Processing	91	79	93	91	9	20	7	9	0	1	0	0
Health Services	81	86	85	84	14	11	14	14	5	3	1	2
Mechanical & Engineering	84	89	94	93	14	11	6	5	2	0	0	2
Natural Science	91	88	83	83	9	12	13	17	0	0	4	0
Public Service	89	92	87	91	10	8	13	9	1	0	0	0

Graph 7

EMPLOYER RATING OF VOCATIONAL TRAINING

MARYLAND COMMUNITY COLLEGES



K. How do community college graduates compare with other employees in the same work group doing similar work?

Each employer was asked to compare the preparation of the community college graduate with that of other employees in the work group doing similar work. Between 66 and 70 percent felt that the community college graduates were better prepared than their work peers. Twenty-two to 28 percent felt others in the work group were equally prepared and 6 to 8 percent felt that the community college graduate was not as well prepared as others in the work group doing similar work. Table 18 provides these data by program area. Graduates in the Health Services area are the most likely to be working with others who are perceived to have the same preparation or to have better preparation than the community college graduate. In all other program areas, community college graduates are seen as the better prepared workers.

Table 18

COMPARISON OF COMMUNITY COLLEGE GRADUATES WITH OTHER EMPLOYEES

Program Area	Better Prepared				Equally Prepared				Less Prepared			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	70	67	68	66	22	28	25	28	8	5	7	6
Business & Commerce	84	75	82	86	12	24	18	13	4	1	0	1
Data Processing	74	68	84	75	24	23	13	21	3	9	3	4
Health Services	50	46	52	44	33	44	34	43	16	10	14	13
Mechanical & Engineering	86	85	71	83	7	15	29	17	7	0	0	0
Natural Science	100	89	77	88	0	11	18	13	0	0	6	0
Public Service	81	82	78	81	17	17	20	19	2	1	2	0

L. Would the employer hire another community college graduate?

As a final test of the employer evaluation of the graduate training, each employer was asked if he would hire another community college graduate from the same community college program. In each survey, 97 percent reported they would hire another community college graduate from the same program area. This was the most consistent response pattern found in all surveys, with over 90 percent in each program area and each year reporting they would hire another graduate (Table 19).

Table 19

WOULD EMPLOYER HIRE ANOTHER COMMUNITY COLLEGE GRADUATE

Program Area	Yes				No			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	97	97	97	97	3	3	3	3
Business & Commerce	97	95	97	99	3	5	3	1
Data Processing	98	97	95	98	2	3	5	2
Health Services	98	99	97	96	2	1	3	4
Mechanical & Engineering	98	98	96	98	2	2	4	2
Natural Science	91	100	100	100	9	0	0	0
Public Service	98	96	97	100	2	4	3	0

SUMMARY

On a program level, the surveys raise some important issues. The Health Services program area shows the most variation in responses. It is the area most likely to require an associate in arts degree, but also to prefer a bachelor's degree. This area shows a steady increase in approval rates on several questions (familiarity with test equipment, 80 to 86 percent; preparation for needed job skills, 88 to 97 percent; and preparation in the area of technical knowledge, 80 to 87 percent). It also shows the highest disapproval rate on another question (comparison with other employees, 13 percent). It is the area that contributed the most written comments about the need for greater attention to preparation for use of testing and laboratory equipment, for technical job skills, and for communcation skills.

The Natural Science program area shows the highest disapproval rate in three areas: ability to communicate with superiors, 8 percent; ability to work well with other employees, 8 percent; and work quality, 8 percent. While these disapprovals and the number of responding employers are low, the concentration in this one program area is of some concern.

On a systemwide level, several conclusions can be reached. The value of the associate in arts degree is high; 31 percent of the employers require it, and 41 percent prefer that their employees receive a community college degree. Employers also expressed a strong preference for employees who had taken particular community college courses and/or who had earned a community college certificate. The overall vocational training of the graduates is rated very positively; 86 to 89 percent of the employers rated vocational training very good or good, while only one to 2 percent rated it as poor. Community college graduates compare well to other employees, with 92 to 94 percent of the employers saying that the graduates are equally or better prepared than other employees. Ninety-seven percent would hire another community college graduate to fill a similar position within the organization.

Enrollment in vocational programs grew during the period covered by these surveys, though modestly. Recent trends show a slight decrease in the number of full-time enrollments overall, with greater variation among the individual programs. Public Service enrollment has dropped, especially part-time. Data Processing and Natural Science enrollments increased significantly during the study period and are only recently experiencing a decline in enrollment.

Employer evaluations of graduate preparation in the area of technical knowledge show a steady improvement over the four surveys in a number of program areas. Employer ratings of very good and good increased in Health Services (80 to 87 percent), Mechanical and Engineering (80 to 87 percent), and Public Service (85 to 91 percent). The approval rate across all programs increased from 84 to 89 percent.

Written comments revealed a general need for increased attention to training with technical equipment in all fields, especially as the use of computers becomes more universal, and to increased attention to communication skills, oral and written.

Overall, the survey results are very consistent. These follow-up studies of 1978, 1980, 1982, and 1984 graduates, conducted one year after graduation, reveal a high

approval rating by the employers of the graduates. Little variation is displayed across the four surveys or among the seventeen community colleges. Therefore, it can be concluded that the occupational programs are meeting the needs of the students and of the marketplace in providing academic instruction and skills training.

Recommendations

- Colleges need to "sell" the associate in arts degree and community college skills as job requirements. Many employers pefer community college courses but the complete "package" is not seen as important by all employers.

- Keeping up with technology, continuing to learn on-the-job, and perfecting communication skills are seen by employers as the most important roles the community colleges can play in preparing graduates for employment.

- Involvement of employers in the evaluation of programs and colleges is a valuable tool in the continued success of programs and is vital to the health of the community colleges.

APPENDIX A

Included in this appendix are tables showing the responses to each item by college. When there is variance in the responses by the year of the survey, the table shows data for each survey separately. Where there appeared to be no change in employer responses from year-to-year, data for each survey have been aggregated.

NUMBER OF EMPLOYER RESPONDENTS

College	1978	1980	1982	1984
STATEWIDE	786	688	743	670
Allegany	82	51	58	50
Anne Arundel	31	69	80	52
Baltimore	110	60	51	26
Catonsville	88	41	77	48
Cecil	9	10	7	14
Charles	38	30	35	31
Chesapeake	-	4	11	17
Dundalk	12	26	21	28
Essex	84	50	79	55
Frederick	16	18	12	29
Garrett	-	6	7	4
Hagerstown	46	30	43	41
Harford	37	39	47	50
Howard	32	53	41	31
Montgomery	120	111	69	49
Prince George's	62	90	72	104
Wor-Wic Tech	19	-	33	41

EMPLOYERS RATING COLLEGE PREPARATION
FOR NEEDED JOB SKILLS
AS MORE THAN ADEQUATE OR ADEQUATE

College	1978 %	1980 %	1982 %	1984 %
STATEWIDE	89	92	93	97
Allegany	91	98	95	98
Anne Arundel	93	94	94	98
Baltimore	88	95	86	92
Catonsville	89	93	95	96
Cecil	100	90	88	100
Charles	95	93	91	90
Chesapeake	-	100	100	94
Dundalk	92	100	95	100
Essex	86	94	91	98
Frederick	81	83	92	100
Garrett	-	83	100	100
Hagerstown	83	97	84	100
Harford	89	94	96	98
Howard	86	87	93	87
Montgomery	93	90	93	99
Prince George's	88	88	94	98
Wor-Wic Tech	100	-	91	98

FAMILIARITY WITH TEST AND LABORATORY EQUIPMENT

College	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	69	67	68	71	7	7	6	5	24	26	26	24
Allegany	74	75	70	72	11	8	4	8	15	18	26	20
Anne Arundel	73	69	67	63	8	6	5	6	19	25	28	31
Baltimore	63	67	63	77	2	5	4	4	35	28	33	19
Catonsville	62	68	75	77	8	7	4	10	29	24	21	13
Cecil	78	67	57	69	0	0	0	0	22	33	43	31
Charles	71	71	66	71	0	7	17	3	29	21	17	26
Chesapeake	-	50	64	69	-	0	0	0	-	50	36	31
Dundalk	50	54	50	68	0	0	10	0	50	46	40	32
Essex	72	76	62	80	12	2	11	6	16	22	27	14
Frederick	60	39	75	71	20	17	8	7	20	44	17	21
Garrett	-	50	57	75	-	0	0	0	-	50	43	25
Hagerstown	65	55	63	51	2	3	9	5	33	41	28	44
Harford	75	66	76	67	3	9	4	4	22	26	20	29
Howard	60	60	74	81	10	14	8	3	30	27	18	16
Montgomery	70	73	71	78	9	10	5	0	22	17	24	22
Prince George's	75	67	68	66	9	6	4	7	17	28	28	27
Wor-Wic Tech	78	-	84	82	0	-	0	5	22	-	16	13

ON-THE-JOB PERFORMANCE OF NEEDED SKILLS

College	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	89	92	93	97	6	5	3	2	5	3	4	1
Allegany	91	98	95	98	7	2	4	2	1	0	2	0
Anne Arundel	93	94	94	98	4	2	2	2	4	5	4	0
Baltimore	88	95	86	92	5	2	4	4	8	3	10	4
Catonsville	89	93	95	96	5	5	3	2	6	3	3	2
Cecil	100	90	88	100	0	10	13	0	0	0	0	0
Charles	95	93	91	90	3	4	6	3	3	4	3	6
Chesapeake	-	100	100	94	-	0	0	0	-	0	0	6
Dundalk	82	100	95	100	0	0	5	0	18	0	0	0
Essex	86	94	91	98	10	0	4	2	5	6	5	0
Frederick	81	83	92	100	13	17	8	0	6	0	0	0
Garrett	-	83	100	100	-	17	0	0	-	0	0	0
Hagerstown	83	97	84	100	7	3	9	0	11	0	7	0
Harford	89	94	96	98	9	3	2	2	3	3	2	0
Howard	86	87	93	87	10	9	5	10	3	4	2	3
Montgomery	92	89	94	98	3	11	0	0	4	4	6	2
Prince George's	88	90	94	98	9	6	3	1	3	7	3	1
Wor-Wic Tech	100	-	91	98	0	-	0	2	0	-	9	0

ABILITY TO LEARN NEW SKILLS ON THE JOB

College	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	97	97	98	98	2	1	1	1	2	2	1	1
Allegany	99	98	100	98	1	0	0	2	0	2	0	0
Anne Arundel	97	97	98	96	3	1	1	0	0	2	1	4
Baltimore	97	97	98	100	2	3	2	0	1	0	0	0
Catonsville	95	98	97	94	1	0	0	2	4	2	3	4
Cecil	100	100	100	100	0	0	0	0	0	0	0	0
Charles	95	100	97	93	0	0	0	0	5	0	3	7
Chesapeake	-	100	100	100	-	0	0	0	-	0	0	0
Dundalk	100	96	95	100	0	0	5	0	0	4	0	0
Essex	96	98	94	98	2	0	3	2	1	2	0	0
Frederick	94	94	100	100	6	6	0	0	0	0	4	0
Garrett	-	100	100	100	-	0	0	0	-	0	0	0
Hagerstown	94	100	98	98	2	0	2	2	4	0	0	0
Harford	94	97	100	98	3	3	0	0	3	0	0	2
Howard	100	98	100	97	0	0	0	0	0	2	0	3
Montgomery	96	98	100	100	3	2	0	0	3	2	0	0
Prince George's	97	96	99	99	2	1	1	1	2	0	0	0
Wor-Wic Tech	100	-	97	95	0	-	3	5	0	-	3	0

PREPARATION TO COMMUNICATE WITH SUPERIORS

College	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	94	94	96	95	4	5	3	3	2	1	1	2
Allegany	93	90	97	100	5	10	3	0	2	0	0	0
Anne Arundel	93	91	96	96	7	8	3	2	0	1	1	2
Baltimore	94	97	98	89	4	3	2	8	2	0	0	4
Catonsville	88	95	99	98	8	2	0	0	4	2	1	2
Cecil	100	100	100	86	0	0	0	7	0	0	0	7
Charles	92	100	97	94	5	0	0	0	3	0	3	7
Chesapeake	-	100	100	88	-	0	0	6	-	0	0	6
Dundalk	91	96	90	86	9	0	10	11	0	4	0	4
Essex	96	98	95	95	2	0	3	6	1	2	2	0
Frederick	94	89	83	96	6	11	17	0	0	0	0	0
Garrett	-	100	86	100	-	0	14	0	-	0	0	0
Hagerstown	94	90	95	100	2	10	5	0	4	0	0	0
Harford	97	87	98	88	0	14	2	10	3	0	0	2
Howard	100	94	95	94	0	4	5	0	0	2	0	0
Montgomery	94	94	97	98	3	4	3	2	3	2	0	2
Prince George's	98	97	99	98	2	2	1	2	0	1	0	0
Wor-Wic Tech	100	-	100	98	0	-	0	2	0	-	0	0

PREPARATION TO WORK WELL WITH OTHER EMPLOYEES

College	More Than Adequate or Adequate				Inadequate				Not Applicable			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	95	96	97	96	3	3	2	2	2	1	1	2
Allegany	94	90	100	100	2	10	0	0	4	0	0	0
Anne Arundel	100	97	98	92	0	2	1	2	0	1	1	6
Baltimore	94	100	98	92	4	0	2	4	2	0	0	4
Catonsville	94	95	99	96	2	2	0	0	4	3	1	4
Cecil	100	100	100	93	0	0	0	7	0	0	0	0
Charles	97	100	94	90	0	0	3	3	3	0	3	7
Chesapeake	-	100	100	94	-	0	0	0	-	0	0	6
Dundalk	100	92	85	93	0	4	15	4	0	4	0	3
Essex	97	98	94	96	2	0	4	4	1	2	2	0
Frederick	94	89	92	100	6	11	8	0	0	0	0	0
Garrett	-	100	86	100	-	0	0	0	-	0	14	0
Hagerstown	91	93	98	100	4	7	2	0	4	0	0	0
Harford	94	97	98	96	3	3	2	2	3	0	0	2
Howard	97	94	98	94	3	4	2	3	0	2	0	3
Montgomery	94	94	99	98	3	4	1	0	3	2	0	2
Prince George's	100	97	99	97	0	2	1	3	0	1	0	0
Wor-Wic Tech	94	-	100	93	5	-	0	2	0	-	0	5

PREPARATION IN AREA OF TECHNICAL KNOWLEDGE

College	Very Good or Good				Neutral				Poor or Very Poor			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	84	86	86	89	14	13	13	10	2	1	1	1
Allegany	81	92	86	94	14	8	14	6	5	0	0	0
Anne Arundel	83	81	95	88	17	19	5	10	0	0	0	2
Baltimore	80	87	83	92	18	13	15	8	2	0	2	0
Catonsville	85	95	89	89	14	5	11	11	1	0	0	0
Cecil	100	89	86	92	0	0	0	8	0	11	14	0
Charles	92	92	89	90	8	8	9	10	0	0	3	0
Chesapeake	-	100	78	93	-	0	22	7	-	0	0	0
Dundalk	89	88	80	85	11	12	20	15	0	0	0	0
Essex	79	96	82	87	12	4	15	13	9	0	3	0
Frederick	63	61	67	100	37	39	33	0	0	0	0	0
Garrett	-	67	71	75	-	17	29	25	-	16	0	0
Hagerstown	89	89	81	98	11	11	19	2	0	0	0	0
Harford	85	86	79	83	12	14	19	15	3	0	2	2
Howard	76	86	81	85	21	12	19	11	3	2	0	4
Montgomery	89	82	85	94	1	14	15	6	0	4	0	0
Prince George's	86	83	93	81	12	15	7	16	2	2	0	3
Wor-Wic Tech	100	-	91	90	0	-	9	5	0	-	0	5

PREPARATION IN AREA OF WORK ATTITUDE

College	Very Good or Good				Neutral				Poor or Very Poor			
	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %	1978 %	1980 %	1982 %	1984 %
STATEWIDE	89	90	90	90	9	8	8	9	2	2	2	1
Allegany	87	80	91	98	11	18	9	2	2	2	0	0
Anne Arundel	93	92	96	98	7	8	4	2	0	0	0	0
Baltimore	88	91	88	84	11	5	8	16	2	4	4	0
Catonsville	81	95	95	89	17	3	5	11	2	2	0	0
Cecil	100	89	100	85	0	0	0	15	0	11	0	0
Charles	92	100	88	100	8	0	12	0	0	0	0	0
Chesapeake	-	100	90	86	-	0	10	14	-	0	0	0
Dundalk	90	96	85	89	10	0	10	11	0	4	5	0
Essex	92	92	87	84	6	8	11	13	2	0	2	3
Frederick	88	78	92	92	6	17	8	4	6	5	0	4
Garrett	-	83	57	100	-	17	43	0	-	0	0	0
Hagerstown	96	97	88	98	2	0	7	2	2	3	5	0
Harford	97	80	84	85	3	20	16	15	0	0	0	0
Howard	90	94	85	82	10	2	10	18	0	4	5	0
Montgomery	86	88	93	89	11	10	6	11	3	2	1	0
Prince George's	90	92	93	94	8	7	6	5	2	1	1	1
Wor-Wic Tech	100	-	94	83	0	-	6	17	0	-	0	0

APPENDIX B

Questionnaire

EMPLOYER QUESTIONNAIRE

MARYLAND COMMUNITY COLLEGES

The purpose of this questionnaire is to help your community college and the State Board for Community Colleges assess and improve instructional programs. Please return it in the envelope provided. Thank you for your assistance.

o o

_____
Name of Graduate

_____
Graduate's Job Title

o o

A. What level of education is required or preferred for the job held by the community college graduate you supervise? (Check as many as apply)

	Required	Preferred	No Preference
High school diploma	—	—	—
Community college courses	—	—	—
Community college certificate	—	—	—
Community college associate degree	—	—	—
Four-year college degree	—	—	—
Other, please specify	—	—	—
_____			

B. Based on your own experience of supervising this community college graduate, please indicate how adequately you feel the college prepared the graduate in each of the areas listed below. (Check appropriate response)

	More than Adequate	Adequate	Inadequate	Not Observed or Not Applicable
Performance of job skills	—	—	—	—
Familicrity with any test or laboratory equipment required by this job	—	—	—	—
Ability to learn new techniques on the job	—	—	—	—
Ability to communicate with superiors	—	—	—	—
Ability to work well with other employees	—	—	—	—

Items below for college use only.

College Code _____ Program No. _____ C A / B I A H W F / M F

C. Please rate the vocational training received by the graduate in the following areas. (Check appropriate response)

	Very Good	Good	Neutral	Poor	Very Poor
Technical knowledge	___	___	___	___	___
Work attitude	___	___	___	___	___
Work quality	___	___	___	___	___
What is your overall rating of the vocational training received by this graduate as it relates to the requirements of the job?	___	___	___	___	___

D. As a result of the vocational training, how would you rate this graduate's preparation in relation to other employees in the work group who did not receive such training? (Check one)

___ No basis for comparison
___ Individual is better prepared
___ Both are about the same
___ Individual is less prepared

E. In general, would you employ another graduate from this community college who has a degree or certificate in the same area as your current employee?

___ Yes
___ No Why? _____

F. Please specify any additional skills or areas of knowledge that you feel an associate in arts or certificate graduate you employ should have.

_____

_____

G. Additional comments.

_____

_____

H. If further evaluation of college programs is needed, would you be willing to share your expertise and to be contacted by our faculty?

___ Yes
___ No

Supervisor completing this questionnaire:

Name: _____

Title: _____

Company/Organization: _____

City/State/Zip Code: _____

THANK YOU

ERIC Clearinghouse for Junior Colleges AUG 8 1986